

BACKGROUND:

Climate Ready Boston is led by the City of Boston and the Boston Green Ribbon Commission and is aimed at preparing the City for the impacts of a changing climate.

The **Climate Ready Boston Leaders** outreach program aims to increase awareness and understanding of the climate impacts Boston is facing and involve Bostonians in developing and advancing *Climate Ready Boston* action items. The leaders program was created in order to engage with the diverse communities that comprise Boston and to give tools for Bostonians to have conversations about the changing climate. The program emphasizes that preparing for a changing climate happens on multiple levels and scales and believes that residents, businesses, and communities all have the power to take action and be prepared.

To achieve the goals present with the *Climate Ready Boston* report, the City of Boston and GRC are partnering with community leaders to share key findings from the *Climate Ready Boston* report with their respective communities and to gain input from their communities on the near term strategies that are being considered. This process brings forward other concerns that arise due to the changing climate, and allows the City of Boston to connect residents with programs, materials, and action items that work to address their concerns.

Climate Ready Boston presentation slides and the following dialogue script have been developed to support the *Climate Leaders* program. They outline an overarching narrative that leads with the opportunities that a changing climate creates for the City of Boston and the benefits associated with becoming climate ready. Following this are the climate impacts that make this vision critical to achieve, and the steps that can be taken to get there. The presentation emphasizes key points from the *Climate Ready Boston* report but leaves room for the presenter to tailor it, based on interests and needs of the presenter and the communities presented to.

One of the best ways for people to process climate risks and contribute to responses is through dialogue. As a result, questions for conducting a dialogue session regarding action items and strategies are included at the end of this guide. Additionally, an accompanying form has been created to assist in capturing and sharing input from participants. We require that presenters and participants provide us with feedback on the accompanying forms and share them with the City of Boston's Greenovate team so community concerns and ideas can be incorporated into CRB planning efforts and specific concerns can be addressed through further engagement.

Please note that presentation images can be changed and the focus of the presentation can be altered depending on the stakeholders. We also provide neighborhood specific slides for those who would like to focus on their neighborhoods.

The presentation fonts (as well as all forms, presentations, and documentation) are available for download on the Google Public Folder. The presentation uses **MONTERRAT (BOLDED AND CAPITALIZED)** and Lora. Without these fonts the presentation will change in appearance. Please download them so that the presentation functions correctly.

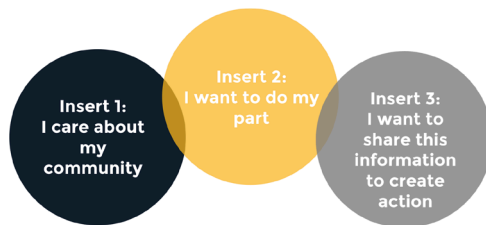
SECTION ONE: INTRODUCTION - (5 MIN)

SLIDE 1- WELCOME TO A CLIMATE READY BOSTON LEADERS PRESENTATION



SLIDE 2 - WHY AM I HERE TODAY?

WHY AM I HERE TODAY?



GOALS OF CRB CLIMATE LEADERS PROGRAM

- Increase understanding of climate impacts
- Involve community members in resilience strategies

PRESENTATION POINTS

- Introduce yourself and your affiliation and role
- Give three reasons as to why you are here, which you will insert before presenting
- Give a brief intro to the Leaders program

MESSAGE DETAILS

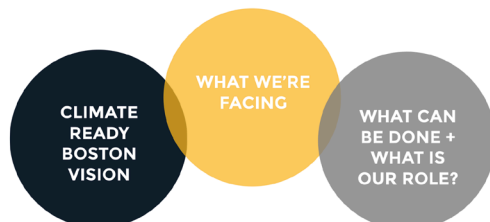
- “I am not here officially representing the City of Boston but I am part of a growing group of concerned community leaders (or members) who are starting conversations like this one across the city to increase understanding of risks we are facing, provide an opportunity to share ideas, and gather feedback for the City to use in shaping strategies for increasing Boston’s vitality”

TIPS

- In your introduction, make it personal. Why are you a leader and why are you doing this presentation? Make sure it is in only three short statements.

SLIDE 3 - WHY ARE WE HERE TODAY?

WHY ARE WE HERE TODAY?



PRESENTATION POINTS

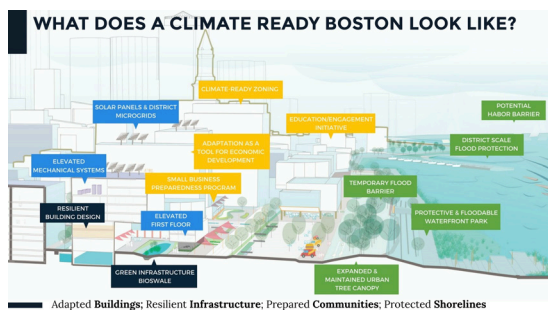
- Why are we here?
- Outline session
- To talk about:
 1. The City of Boston's Climate Ready Boston vision, which addresses climate change head on
 2. What climate change means for the City and what it is facing
 3. And, what we as a community and as individuals can do to be a part of making Boston and our communities more resilient, equitable, and prepared

TIPS

- Some stakeholders you engage with might be interested in the detailed data however, most want to know what does this mean for me and what can I do. Therefore, your job is not to perfectly convey all the details of the science, economics, etc., but create a sense of relevance and possibility.

SECTION TWO: WHAT DOES A CLIMATE READY BOSTON LOOK LIKE? (5 MIN)

SLIDE 4 – WHAT DOES A CLIMATE READY BOSTON LOOK LIKE?



PRESENTATION POINTS

- Climate change is creating an opportunity to make Boston more resilient, equitable, and prepared.
- Climate Ready Boston incorporates a many-leveled approach. It addresses infrastructure, energy systems, sustainable development, multi-purpose green spaces, stormwater infrastructure, protected shorelines, and prepared and connected communities because climate change affects all these things.

BACKGROUND INFORMATION

- Climate Ready Boston looks at multi-purpose solutions and systems. It ensures that new development, particularly along our shoreline, add to flooding protections and don't limit options for the future. We can prepare our transportation, water, energy and other critical systems to deliver reliable service even under changing conditions.
- We can also adapt the way our buildings are constructed so they are safe, comfortable, and healthy to live in with changing conditions.
- And, in all of this, we can and must address how climate disruptions affects some more than other and take steps to ensure everyone is part of and benefits from the solutions we advance.

TIPS

- You won't have to go into too much detail with this slide. The background information is there to help you understand what the image shows. Highlighting that Boston is seeking multipurpose solutions on all scales is enough.

SLIDE 5 - WHAT DOES A CLIMATE READY BOSTON LOOK LIKE?



PRESENTATION POINTS

- Climate change is complex therefore solutions must also be.
- In East Boston, pictured here, the City has published a new report called Coastal Resilience Solutions for East Boston and Charlestown, which develops long- and short-term designs and recommendations that address coastal flooding, stormwater management, and provide more and accessible green spaces for the community.

TIPS

- You can change this example if you would like. Just include an example of a larger-scale project that combines multiple approaches.

SLIDE 6 - WHAT DOES A CLIMATE READY BOSTON LOOK LIKE?



PRESENTATION POINTS

- Solutions are not always grand or large-scale. The Condor Urban Wild is a site-specific example of how we can prepare for climate change. The site was once a toxic industrial site and has now become an accessible waterfront space for residents of East Boston

BACKGROUND INFORMATION

- The Condor Street Urban Wild in East Boston used to be an abandoned, toxic, industrial site until NOAH (Neighborhood Organization for Affordable Housing) and other organizations partnered with the City to turn the area from a health hazard into a natural park. Community members now have more access to the shoreline and added flood protections thanks to the restoration of salt marshes and meadow grasses.

TIPS

- You can change this example to be neighborhood/sector specific. Just include an example of a site-scale project that combines multiple approaches and addresses community access.

SECTION TWO: IMPACTS ARE HERE. TIME TO PREPARE (10 MIN)

SLIDE 7 – WHAT DOES A CLIMATE READY BOSTON LOOK LIKE?

IMPACTS ARE HERE. TIME TO PREPARE.



PRESENTATION POINTS

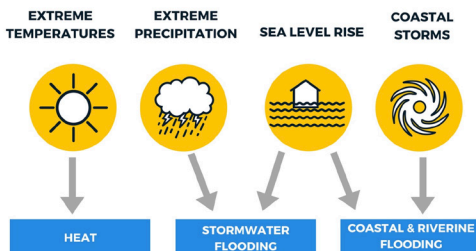
- The impacts are here and it is time to prepare as a city, community, and as individuals.
- The last three years we have experienced the largest snowfall in the city's history and the warmest summer on record.
- Climate Ready Boston is about better understanding the risks we are facing and developing strategies that result in a better city for everyone.

TIPS

- You can change the image to be about snowfall or heat waves or more neighborhood specific

Slide 8 – WHAT WE'RE STUDYING

WHAT WE'RE STUDYING



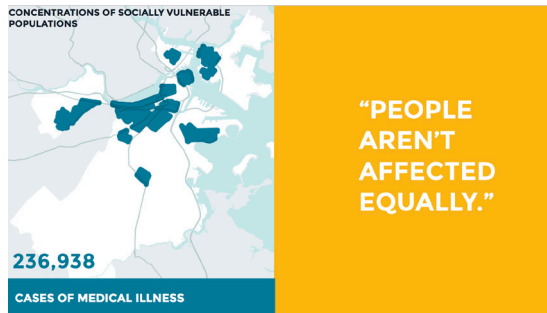
PRESENTATION POINTS

- Scientists agree upon the impact of climate change on the Boston region.
- These include extreme temperatures, extreme precipitation, and sea level rise.
- We will be discussing these topics and their impacts as we move through the presentation

BACKGROUND INFORMATION

- Taking steps now to prepare Boston to be climate ready can deliver tangible benefits in the short term and also gives us the most options to ensure a thriving future. This is a must-do given the impacts already being experienced in Boston and what is expected for the future
- Just how much these things will change in the long term depends on whether people in Boston and around the world can cut carbon emissions that we are creating through burning fossil fuels.
- Climate projections for the next few years are relatively consistent regardless of the emissions scenarios, however they differ increasingly into the future.

SLIDE 9 – PEOPLE AREN'T AFFECTED EQUALLY



PRESENTATION POINTS

- These impacts do not affect everyone equally.
- Age, health, income, race, and gender all play a role and are therefore important to address

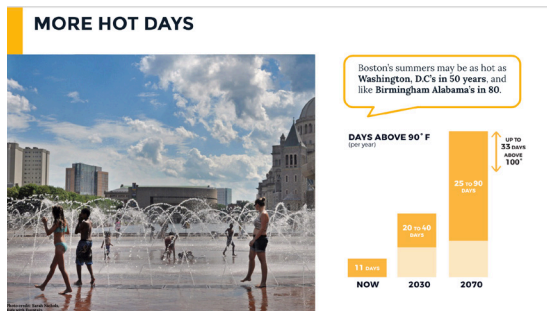
BACKGROUND INFORMATION

- Climate Ready Boston outlines social vulnerabilities and initiatives that address equity and increase resilience for community members
- Social Vulnerability is defined as disproportionate susceptibility of some social groups to the impacts of hazards and also affects a population's ability to avoid or recover from impacts. It is a function of demographic factors, as well as environmental and community conditions.

TIPS

- Depending on who you are engaging, it may make sense to focus more on specific portions of this information.

SLIDE 10 - MORE HOT DAYS



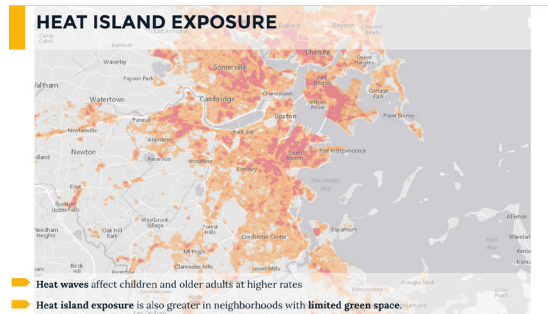
PRESENTATION POINTS

- There were 22 days over 90 degrees in 2015 and by 2030 we could be seeing up to 40 days over 90 degrees.
- Summers are getting hotter with more heat waves

TIPS

- Depending on who you are engaging, it may make sense to focus more on specific portions of this information, such as public health or infrastructure impacts.
- You can always swap out photos for ones that are more relevant. Please avoid images that are meant to scare people and always have ones that include people.

SLIDE 11 - HEAT ISLAND EXPOSURE



PRESENTATION POINTS

- More hot days means increased heat island exposure.
- Heat waves and heat island exposure affect people unequally.
- It affects children and older adults at higher rates, those who do not have access to cool spaces in the summer, and individuals with conditions that are exacerbated by heat exposure, like asthma.
- Heat island exposure is also greater in neighborhoods with limited green space.

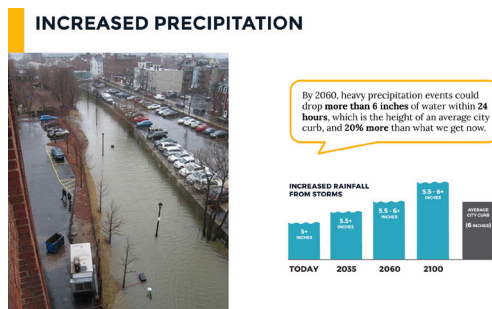
BACKGROUND INFORMATION

- Heat island exposure is due to a number of factors, more specifically the effects that occur when heat is absorbed and/or trapped in spaces due to: dark surfaces that absorb heat, heat radiation being trapped by tall buildings, concrete, etc., and by the lack of cooling action from green spaces.
- Temperatures in City centers can sometimes be anywhere from 5 to 20 degrees warmer than the surrounding area.
- Heat extremes can cause death, exacerbate health conditions and disease while increasing emergency room visits. Even a single day can create problems, but heat waves with consecutive days of hot temperatures bring even more risk.

TIPS

- Depending on who you are engaging, it may make sense to focus more on health aspects of heat island, or focus on the need for green space to counteract the effects of heat island.

SLIDE 12 - INCREASED PRECIPITATION



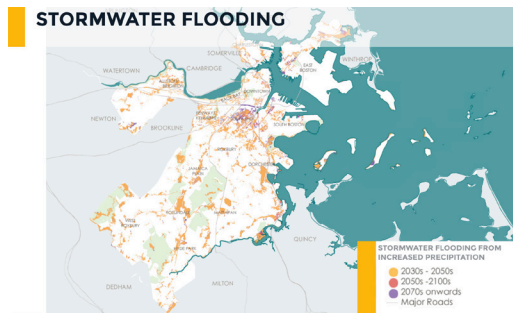
PRESENTATION POINTS

- By 2060, heavy precipitation events will increase by 20%, at a rate of more than 6 inches per 24 hour period. This is the height of an average city curb.
- This impacts stormwater systems, transit, etc.

BACKGROUND INFORMATION

- Extreme rain and snow events are increasing in the Northeast in particular. By 2060, this could mean more than 6 inches of rainfall within 24 hours during the most severe events. As you know, flooding creates challenges for Boston's stormwater systems; disrupts traffic; and affects transit.
- From 1958 – 2010, there was a 70% increase in the amount of precipitation that fell on the days with the heaviest precipitation

SLIDE 13 - STORMWATER FLOODING



PRESENTATION POINTS

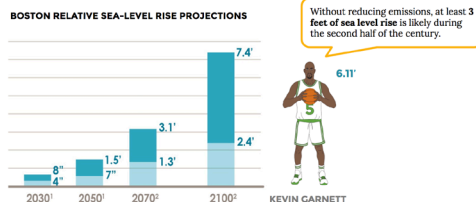
- This is data from Boston's Water and Sewer Commission showing parts of the city that would see nuisance flooding as a result of increase in precipitation.

BACKGROUND INFORMATION

- Boston's stormwater systems are already challenged by major flooding events and this will increase with more extreme precipitation
- West Roxbury, Allston, Brighton, East Boston, and South Dorchester have the largest areas of land expected to be affected by stormwater flooding. The South End and South Boston will see the greatest increase to land exposed later in the century

SLIDE 14 - SEA LEVEL RISE (SLR)

SEA LEVEL RISE



PRESENTATION POINTS

- SLR is occurring and will accelerate over time, bringing flood risks along coasts and rivers.
- The darker blue bars shows projected sea level rise over time with a "business as usual" carbon scenario-- meaning we don't reduce our use of fossil fuels.
- The lighter blue bars shows us sea level rise if we do cut carbon in line with the levels required in the Paris Agreement.
- This chart shows us that cutting carbon emissions is critical to seeing lower sea levels in Boston in the future.
- And also that some sea level rise will happen no matter what so we need to start planning for it.

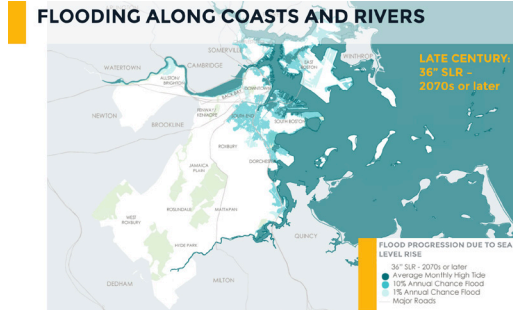
BACKGROUND INFORMATION

- Sea level rise is underway and is expected to accelerate. We will likely see an increase of three or more feet during the second half of the century. Flooding will occur along the coast and rivers, and penetrating inland to some interior parts of the city.
- Can expect 8 inches of SLR by 2030, which is 3x the rate of increase over the 20th century.

TIPS

- Don't worry about explaining all scenarios, possible flooding ranges, and potential timelines. It is easy to get lost in it.
- Climate Ready Boston uses in inches of sea level rise in maps, but showing where flooding might come on your body provides an easy to understand reference. Ex. I am 5'3", so 3 ft of flooding would be higher than my waist.

SLIDE 15 - FLOODING ALONG COASTS AND RIVERS



PRESENTATION POINTS

- Greater amounts of Sea Level rise means flooding along coasts and rivers will increase
- The lighter blue areas are parts of the city that--with 3 feet of sea level rise-- could see flooding during an extreme storm event, like a hurricane or Nor'easter.
- The darkest blue are areas at risk for flooding at the monthly high tides-- with 3 feet of sea level rise.

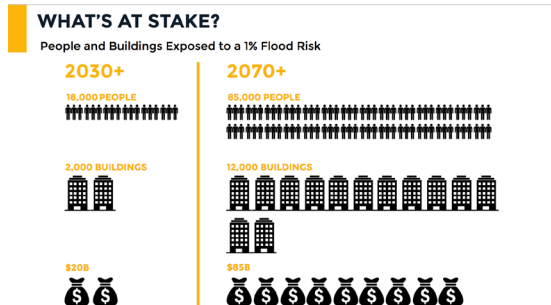
BACKGROUND INFORMATION

- Coastal and riverine flooding is expected to lead to the most significant increases in climate hazard consequences to people, buildings, infrastructure, and the economy
- In the near term (15-34 years), coastal and riverine flooding will mostly happen in parts of South Boston, East Boston, Charlestown, and Downtown.
- Further out in the century with more sea level rise, flooding could increase and extend to the northern part of Dorchester and the South End, as waters enter via Ft Point Channel.

TIPS

- SLR – Don't get bogged down by inches or years. Use these phrases to guide you: NEAR term MID Term (or mid-century), Later-term (later in the century)

SLIDE 16 - WHAT'S AT STAKE?



PRESENTATION POINTS

- In the near term, major flooding events combined with sea level rise place 18,000 people and 2,000 buildings, valued at \$20 billion, at risk
- By 2070, the risk increases to 85,000 people, which is about 15% of Boston's population, and 12,000 buildings, valued at \$85 billion

BACKGROUND INFORMATION

- The CRB report outlines how climate hazards could impact Boston's population, buildings, and the economy to Boston overall and at the neighborhood level

TIPS

- Anticipate questions regarding the vulnerability assessment based on audience. For example, you may want to review economic impacts and how they were determined before speaking to a business audience.

SECTION THREE: WE ARE TAKING ACTION (10 MIN)

SLIDE 17 - WE ARE TAKING ACTION: FIVE KEY CATEGORIES

WE ARE TAKING ACTION: FIVE KEY CATEGORIES



PRESENTATION POINTS

- Boston is taking action across these five areas: Climate Projections, shorelines, infrastructure, buildings, and communities.
- Climate resilience strategies need to be comprehensive-- we can't depend on just on type of solution to work.
- The next slides will address one project or component of each of these areas.

BACKGROUND INFORMATION

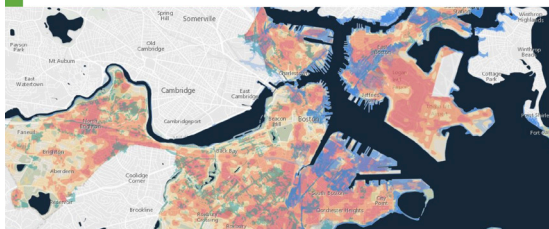
- Climate Ready Boston action areas and strategies were developed based on 5 climate resilience principles.
- Generate multiple benefits (i.e. access to recreation, upgraded roads)
- Incorporate local investment in decision and decision making (community involvement and innovation)
- Create layers of protection by working at multiple scales (i.e. adding tree canopy and retrofitting buildings to address extreme heat)
- Design in flexibility and adaptability (build to address a range in flooding levels)
- Leverage building cycles (tap into natural cycles of fixing or replacing infrastructure and buildings to make resilience improvements)

TIPS

- Climate projections are universal to all of Boston. For the other four categories, you can focus on the specific neighborhood or community you are addressing.
- You are encouraged to emphasize one category over another if it is more relevant to attendees.

SLIDE 18 - UPDATE CLIMATE PROJECTIONS

UPDATE CLIMATE PROJECTIONS



Climate Ready Boston Map Explorer Tool brings updated climate projections to you
www.boston.gov/climate-ready

PRESENTATION POINTS

- Climate Ready Boston Map Explorer tool brings updated climate projections to you
- It helps people understand the risks they need to respond to
- It brings data to you and allows you to focus in on specific neighborhoods and visualize different projections
- You can visit the link at home and download the data on the City's "Analyze Boston" platform

SLIDE 19 - PROTECTED SHORELINES



PRESENTATION POINTS

- The City is in the process of developing neighborhood coastal resilience plans for all neighborhoods that could be impacted by sea level rise.
- The red dots represent project sites that are currently being addressed.
- These projects can be further explored through the Map Explorer tool.

BACKGROUND INFORMATION

- Boston can take steps to protect its shores from flooding that also deliver community benefits such as access to open space.
- The City is developing local plans to prepare for climate disruption and addresses community priorities at the same time. These plans would include district flood protections, infrastructure needs, and land use planning.
- Green and gray infrastructure solutions are necessary. Gray infrastructure includes floodwalls, dams, etc. Green includes park space, planted waterfronts, bioswales, etc.

SLIDE 20 - PROTECTED SHORELINES - EAST BOSTON



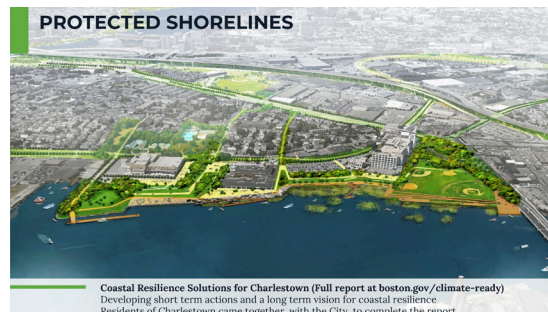
PRESENTATION POINTS

- These are images from the “Coastal Resilience Solutions for East Boston and Charlestown” report-- the first neighborhood coastal resilience plan released in October.
- It outlines long and short term designs and recommendations that address coastal flooding, stormwater management, and provide more accessible green spaces for the community
- Addressing flooding in this way opens up possibilities for other community benefits.

TIPS

- This set of slides and the slides of Charlestown that follow, are meant to just be examples of the city process. Don't get too bogged down trying to explain the images. A link to the plan is on the slide if people want more information

SLIDE 21 - PROTECTED SHORELINES - CHARLESTOWN



PRESENTATION POINTS

- Pictured here is Charlestown-- from the “Coastal Resilience Solutions for East Boston and Charlestown” report.
- Another example of looking at green space and waterfront strategies to protect neighborhoods from sea level rise.

SLIDE 22 - CLIMATE RESILIENT INFRASTRUCTURE



PRESENTATION POINTS

- The City is establishing an Infrastructure Coordinating Committee in order to:
 - Develop climate ready planning and design standards
 - Coordinate actions across power, water, transportation, communication and other systems
 - Another example is Eversource Energy’s South Boston substation, which is built 15ft above ground to withstand the worst storms or tidal surges
- Boston Smart utilities is also setting the stage for city-wide policies that will improve coordination among utilities and drive smart city solutions.

BACKGROUND INFORMATION

- Boston can improve its power, water transportation, communication and other systems so they operate reliably with increasing climate hazards

SLIDE 23 - ADAPTED BUILDINGS



PRESENTATION POINTS

- The City is currently working on:
 - Updated resilience checklist for new development
 - Exploring retrofitting buildings
 - Preparing buildings most at risk
- Pictured here is the future GE Headquarters Building, that elevated its site 4.5 feet out of the floodplain. There are starting to be great examples of creative, resilience buildings in Boston.

BACKGROUND INFORMATION

- Our homes and businesses can be built to withstand increased risks from flooding and adjust to hotter temperatures, which can help cut carbon too.
- Updating zoning and building regulations for new developments helps ensure projects add to flood protections and do not limit options for the future
- Most of the buildings in Boston that need to be prepared for climate disruption already exist. Retrofitting can be difficult and but is key long-term.

SLIDE 24 - PREPARED AND CONNECTED COMMUNITIES



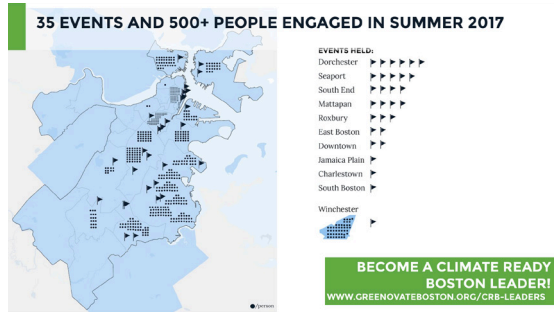
PRESENTATION POINTS

- Prepared and connected communities are:
 - Engaged with the planning process
 - Co-creating plans with the City of Boston
 - Staying informed on risks and how communities can be part of the solutions in both preparedness and mitigation.
 - Climate Ready Boston Leaders is a program (this program!) that trains leaders to engage and inform their own communities about climate action
 - Impacts are better understood with local knowledge

BACKGROUND INFORMATION

- We all play a critical role in identifying climate risks and innovative responses
- The City is looking to partner with organizations to engage Bostonians in understanding risks and developing resilience plans

SLIDE 25 - 35 EVENTS AND 500+ PEOPLE



PRESENTATION POINTS

- The Climate Ready Boston Leaders program has reached over 500 people in Boston's neighborhoods
- There were 35 events spread throughout the city and each event was held by people from different industries, with different passion, and varied goals.
- If you are interested in becoming a leader, please sign up at Greenovateboston.org/crb-leaders.

SECTION FOUR: DISCUSSION AND CALL TO ACTION (15 MIN)

SLIDE 26 - BE A PART OF THE PLAN. TAKE ACTION!

BE A PART OF THE PLAN. TAKE ACTION!

BECOME A LEADER
www.greenovateboston.org/crb-leaders
Lead a CRB event and send us your feedback

STAY UP TO DATE ON OUR PROGRESS
www.boston.gov/climate-ready-progress

SIGN UP TO HEAR ABOUT ENGAGEMENT OPPORTUNITIES
www.greenovateboston.org/signup_survey

GET INVOLVED IN CITY OF BOSTON INITIATIVES THROUGH GREENOVATE:
Zero Waste Boston
Carbon Free Boston
Renew Boston: <http://bit.ly/energy-visit>
Climate Ready neighborhood plans



PRESENTATION POINTS

- We all have a role to play in becoming a Climate Ready Boston
- There are many ways to get involved, from being prepared to helping mitigate further damage
- Here are a few ways to be engaged, get involved, and stay informed

TIPS

- You can add more information here if you would like and depending on your audience
- If you know of a specific event coming up, if there are ways to get involved in your neighborhood, if there is a group that meets regularly about climate related issues (including public health, design, etc), you can add it here.

SLIDE 26 - BE A PART OF THE PLAN. TAKE ACTION!

WHAT CAN WE DO?

DISCUSSION



PRESENTATION POINTS

- What is our role, why are we all here?
- What are our challenges as a community (list them)
- What can we do as a community (to address these challenges)
 - What do we have the power to do, as a community, as individuals, as practitioners, as business owners?
- The City cannot act alone to become climate ready. It will take all of us working together to create the path forward.
 - How can we take action as a community and what can we pledge to do?
- **Ask your participants to fill out the survey form! Fill out the presenter survey after your presentation and send all of these back to us.**

TIPS

- This portion of the presentation is very important. It comes up with a way for you to work with your neighbors, communities, co-workers, etc to come up with a way you can stay involved and be a part of the process.
- Try to record your answers to these questions. Take note of what people say and send the information back with you on the presenter feedback form.
- Let us know what actions you will take and watch it populate the Climate Ready Boston Map on the Leaders Page.